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(FILE 'HOME' ENTERED AT 11:44:25 ON 30 SEP 2004)

FILE 'CAPLUS, USPATFULL, MEDLINE, BIOSIS' ENTERED AT 11:44:57 ON 30 SEP 2004

L1	151433 S G-PROTEIN?
L2	151433 S G PROTEIN?
L3	151433 S L1 (L) L2
L4	61729 S LUCIFERASE
L5	577 S BRET
L6	157 S L5 (L) L4
L7	151433 S L3 (L) L3
L8	78 S L3 (L) L6
L9	7745 S GPCR
L10	51 S L9 (L) L8
L11	3 S L10 AND PY <2001
L12	3 S L8 AND PY<2001

L11 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
TI Detection of β 2-adrenergic receptor dimerization in living cells
using bioluminescence resonance energy transfer (BRET)
PY 2000
AU Angers, Stephane; Salahpour, Ali; Joly, Eric; Hilairt, Sandrine; Chelsky,
Dan; Dennis, Michael; Bouvier, Michel
SO Proceedings of the National Academy of Sciences of the United States of
America (2000), 97(7), 3684-3689
CODEN: PNASA6; ISSN: 0027-8424
AB Heptahelical receptors that interact with heterotrimeric **G**
proteins represent the largest family of proteins involved in
signal transduction across biol. membranes. Although these receptors
generally were believed to be monomeric entities, a growing body of
evidence suggests that they may form functionally relevant dimers.
However, a definitive demonstration of the existence of **G**
protein-coupled receptor (**GPCR**) dimers at the surface of
living cells is still lacking. Here, using bioluminescence resonance
energy transfer (**BRET**), as a protein-protein interaction assay
in whole cells, we unambiguously demonstrate that the human
 β 2-adrenergic receptor (β 2AR) forms constitutive homodimers when
expressed in HEK-293 cells. Receptor stimulation with the hydrophilic
agonist isoproterenol led to an increase in the transfer of energy between
 β 2AR mols. genetically fused to the **BRET** donor (Renilla
luciferase) and acceptor (green fluorescent protein), resp.,
indicating that the agonist interacts with receptor dimers at the cell
surface. Inhibition of receptor internalization did not prevent
agonist-promoted **BRET**, demonstrating that it did not result from
clustering of receptors within endosomes. The notion that receptor dimers
exist at the cell surface was confirmed further by the observation that
BS3, a cell-impermeable crosslinking agent, increased **BRET**
between β 2AR mols. The selectivity of the constitutive interaction
was documented by demonstrating that no **BRET** occurred between
the β 2AR and two other unrelated **GPCR**. In contrast, the
well characterized agonist-dependent interaction between the β 2AR and
the regulatory protein β -arrestin could be monitored by **BRET**
. Taken together, the data demonstrate that **GPCR** exist as
functional dimers in vivo and that **BRET**-based assays can be used
to study both constitutive and hormone-promoted selective protein-protein
interactions.